

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed February 26, 2004 (the "Office Action"). The Office Action rejects Claims 1-12. Applicant adds new Claims 13-16. Applicant submits that no new matter has been added. Applicant respectfully requests reconsideration and favorable action in this case.

Objection to Specification

The Office Action objects to the specification and suggests that "74" on page 11, line 26 should be changed to "72." Applicant has amended the specification accordingly.

Section 103 Rejections

The Office Action rejects Claims 1-3, 5-7 and 9-11 under 35 U.S.C. § 103(a) as being unpatentable over Japan Pat. No. 2000-059300 A issued to Hideki Nishizawa ("*Nishizawa*") in view of U.S. Patent No. 6,559,996 issued to Miyamoto et al. ("*Miyamoto*"). Applicant respectfully traverses these rejections for the reasons discussed below.

The Office Action rejects Claims 4, 8 and 12 under 35 U.S.C. § 103(a) as being unpatentable over *Nishizawa* in view of *Miyamoto* and in further view of U.S. Patent No. 6,618,352 issued to Shirakara et al. ("*Shirakara*"). Applicant respectfully traverses these rejections for the reasons discussed below.

In order to establish a prima facie case of obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. *See In re Royka*, 409 F.2d 981 (CCPA 1974).

Claim 1 recites receiving a multimodulated optical information signal comprising . . . intensity modulation for a clock signal and recovering the clock signal based on the intensity modulation of the multimodulated optical information signal. Claims 5 and 9 include similar elements. The Office Action indicates that *Nishizawa* does not disclose "receiving intensity modulation for a clock signal" but that *Miyamoto* "shows the clock signal is intensity modulated

by an intensity modulator (31)" Office Action, page 3. The Office Action suggests that it would have been obvious to take the "intensity modulator and phase modulator for creating a multimodulated optical information signal comprising non-intensity modulation for a data and intensity modulation for a clock signal as taught by Miyamoto and apply this signal into the received end of Nishizawa, where the clock signal can be extracted." *Id.* The Office Action also states that:

[O]ne having ordinary skill in the art would have [been] motivated for doing this since, with multimodulation method (phase modulation and intensity modulation), the clock signal and the optical signal will be synchronously communicated between transceiver and receiver. Therefore, no inter-symbol [interference] occurs under multi-path fading condition due to polarization dispersion in a transmission line (Miyamoto, col. 14, lines 33-39).

Id. The Office Action uses similar reasoning for rejecting Claims 5 and 9. *See* Office Action, pages 3-4.

However, the references cited by the Office Action teach away from each other and would not be operable if combined as proposed. *Nishizawa* specifically deals with an optical signal of non return to zero (NRZ) code. For example, *Nishizawa* includes an NRZ-I encoder 12 that inputs an input signal of an NRZ code to output an NRZI code. *See Nishizawa*, page 6 and Figure 1. Thus, the components of *Nishizawa* which the Office Action contends perform the claimed functions perform their functions on NRZ-type signals. In contrast, *Miyamoto* deals with the output of a return to zero (RZ) signal. For example, the embodiment of Figure 26 of *Miyamoto*, the figure cited in the Office Action, specifically outputs an RZ optical signal. *See Miyamoto*, Figure 26. Moreover, *Miyamoto* states that it is an object of the invention to output an RZ signal. *See, e.g., Miyamoto*, Abstract, and col. 3, lines 58-60. Applicant notes that a prior art reference must be considered in its entirety, including disclosures that teach away from the claimed invention. *See* M.P.E.P. 2141.02 (citing *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540 (Fed. Cir. 1983), *cert. denied*, 469 U.S. 851 (1984) and 2145 X.D. "It is improper to combine references where the references teach away from their combination." *See* M.P.E.P. 2145 X.D.2. (citing *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983)). Thus, Applicant respectfully submits that the cited references teach away from their proposed combination as the

output RZ signal of *Miyamoto* would not be operable in combination with the components of *Nishizawa*.

Applicant also notes that the M.P.E.P. sets forth a strict legal standard for finding obviousness based on a combination of references. According to the M.P.E.P., "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge [that was] generally available to one of ordinary skill in the art" at the time of the invention. M.P.E.P. 2143.01. The "fact that references can be combined or modified does not render the resultant combination [or modification] obvious unless the prior art also suggests the desirability of the combination" or modification. *Id.* (emphasis in original).

The governing Federal Circuit case law makes this strict legal standard even more clear.¹ According to the Federal Circuit, "a showing of a suggestion, teaching, or motivation to combine . . . prior art references is an essential component of an obviousness holding." *In re Sang-Su Lee*, 277 F.3d 1338, 1343 (Fed. Cir. 2002) (quoting *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25 (Fed. Cir. 2000)). "Evidence of a suggestion, teaching, or motivation . . . may flow from the prior art references themselves, the knowledge of one of ordinary skill in the art, or, in some cases, the nature of the problem to be solved." *In re Dembiczak*, 175 F.3d 994, 999 (Fed. Cir. 1999). However, the "range of sources available . . . does not diminish the requirement for actual evidence." *Id.* In *In re Dembiczak*, the Federal Circuit reversed a finding of obviousness by the Board of Patent Appeals and Interferences, explaining that proper evidence of a teaching, suggestion, or motivation to combine is essential to avoid impermissible hindsight reconstruction of an applicant's invention:

Our case law makes clear that the best defense against the subtle but powerful attraction of hind-sight obviousness analysis is *rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references*. Combining prior art references without evidence of such a suggestion,

¹ Note M.P.E.P. 2145 X.C. ("The Federal Circuit has produced a number of decisions overturning obviousness rejections due to a lack of suggestion in the prior art of the desirability of combining references.").

teaching, or motivation simply takes the inventor's disclosure as a blueprint for piecing together the prior art to defeat patentability—the essence of hindsight.

175 F.3d at 999 (quoting *W.L. Gore & Assoc., Inv. v. Garlock, Inc.*, 721 F.2d 1540, 1553 (Fed. Cir. 1983)) (emphasis added) (citations omitted).² In the present case, the Examiner is improperly using the Applicant's disclosure as a blueprint for piecing together various elements of *Nishizawa* and *Miyamoto*. As indicated above, the Office Action suggests that motivation for the combination includes the synchronous communication of the clock signal and the optical signal between transceiver and receiver. See Office Action, page 3. The portion of *Miyamoto* cited in the Office Action relating to no inter-symbol interference occurring under multi-path fading condition due to polarization dispersion in a transmission line has nothing to do with the use by one skilled in the art of a clock signal modulated with intensity modulation in combination with the differential phase shift keying direct detection system of *Nishizawa*. Applicant notes that even a determination that it would have been obvious to one of ordinary skill in the art at the time of the invention to try the proposed combination is not sufficient to establish obviousness. See *In re Fine*, 837 F.2d 1071, 1075 (Fed. Cir. 1988). Consequently, a *prima facie* case of obviousness cannot be maintained with respect to Claims 1, 5 or 9, as the Office Action has not shown the requisite proof necessary to establish a suggestion or motivation to combine the cited references.

For at least the reasons stated above, Applicant respectfully submits that Claims 1, 5 and 9 are patentable over the cited art used in the rejections and request that the rejections of Claims 1, 5 and 9 be withdrawn.

Claims 2-4, 6-8 and 10-12 depend from Claims 1, 5 and 9, respectively, and therefore respectfully include each element of Claims 1, 5 and 9. Applicant thus respectfully requests that the rejections of Claims 2-4, 6-8 and 10-12 be withdrawn because, as discussed above, Claims 1, 5 and 9 are patentable over the cited art used in the rejections.

² See also *In Re Jones*, 958 F.2d 347, 351 (Fed. Cir. 1992) ("Conspicuously missing from this record is any evidence, other than the PTO's speculation (if that can be called evidence) that one of ordinary skill in the herbicidal art would have been motivated to make the modification of the prior art salts necessary to arrive at" the claimed invention.).

New Claims

Applicant adds new Claims 13-16. Claims 13-16 contain no new matter and are fully supported by the specification as filed. Applicant respectfully submits that Claims 13-16 are allowable over the art used in the previous rejections for at least the reasons discussed above with respect to Claims 1, 5 and 9. In addition, the cited art used in the rejections does not disclose, teach or suggest converting the non-intensity modulation for the data signal to intensity modulation for the data signal after recovering the clock signal. For example, interferometer 13 of *Nishizawa* converts signals to intensity modulated light before clock frequency components are extracted at filter 16. *See Nishizawa*, Solution and Figure 13. Therefore, Applicant respectfully requests allowance of Claims 13-16.

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CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. For the foregoing reasons, and for other reasons clearly apparent, Applicant respectfully requests full allowance of all pending claims.

If the present application is not allowed and/or if one or more of the rejections is maintained, Applicant hereby requests a telephone conference with the Examiner and further request that the Examiner contact Chad C. Walters, Attorney for Applicant, at the Examiner's convenience at (214) 953-6511 to schedule the telephone conference.

A check in the amount of \$86.00 is enclosed as fees for one additional independent claim. A check in the amount of \$110.00 is also enclosed to cover the cost of a one-month extension of time. Although no other fees are believed to be due, the Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of BAKER BOTTS L.L.P.

Respectfully submitted,

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